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Farshchian et al.

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(54) **HIGH-PERFORMANCE ELECTRONICS COOLING SYSTEM**

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(57) **ABSTRACT**

(51) **Int. Cl.**
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H05K 7/20 (2006.01)
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A cooling system for an electronic circuit package is provided. The cooling system includes a heat transfer plate positioned in thermal contact with an electronic circuit package surface and forming the bottom surface of an evaporative region of the cooling system. The cooling system also includes a plurality of condensing tubes in fluid communication with, and extending away from, the evaporative region, such that the evaporative region and the condensing tubes together form a single, uninterrupted, sealed enclosure. The cooling system also includes a fluid within the sealed enclosure. The cooling system also includes a plurality of spacers filling gaps between the heat transfer plate and the condensing tubes, such that each spacer is configured as an independent component to allow the passage of fluid through the interior space of each spacer. The cooling system also includes a plurality of wicks, where each wick is positioned partially within a corresponding spacer to which it is fluidically coupled.

(52) **U.S. Cl.**
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